## (C1) Classic Sudoku

Rule: Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

10 points | 3 | 4 |  |  |  |  | 7 | 6 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  | 9 | 6 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  | 5 | 6 |  |  |  | 2 | 3 |  |
| 7 | 8 |  |  |  | 2 | 4 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 0 | 6 |  |  | 5 | 4 |  |  |  |  |
|  | 6 | 9 |  |  |  | 1 |  |  |  |

| $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ | $\mathbf{D}$ |
| :--- | :--- | :--- | :--- |
|  |  |  |  |

## (C2) Irregular Sudoku

Rule: Apply classic Sudoku rules (Each outlined region is not necessarily a $3 \times 3$ square).


Answer Key: Enter the digits in lettered cells in alphabetical order.
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## (C3) Non-consecutive Sudoku

Rule: Apply classic Sudoku rules. Consecutive digits (i.e. digits with difference 1) cannot touch vertically or horizontally.

24 points |  |  |  |  |  |  | $A$ |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | 2 | 9 |  |  |  |  | 7 |  |
|  | 2 | 3 |  |  |  |  |  |  |
|  |  | 2 |  | 8 |  |  |  |  |
|  |  |  | 9 |  | 5 |  |  |  |
| $c$ |  |  | 4 |  | 9 |  |  |  |
|  | 9 |  |  |  |  |  | 8 |  |
|  |  |  |  |  |  |  |  |  |



## (C4) Classic Sudoku

Rule: Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

|  |  |  |  |  |  | $B$ |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 |  |  | 4 |  | 2 |  | 8 |  |
| 3 |  |  | 5 | 6 | 8 |  | 9 |  |
| 6 | 9 |  | 8 |  | 4 |  | 7 |  |
|  |  |  |  |  |  |  |  |  |
|  | 5 |  | 6 | 2 |  | 6 | 1 |  |
|  | 8 |  | 7 |  | 9 |  |  | 5 |
|  |  |  |  |  |  |  |  |  |


| $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ | $\mathbf{D}$ |
| :--- | :--- | :--- | :--- |
|  |  |  |  |

Answer Key: Enter the digits in lettered cells in alphabetical order.
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## (C5) Inequality Sudoku

Rule: Apply classic Sudoku rules. All inequality signs must be correct.

## 26 points



## (C6) Killer Sudoku

Rule: Apply classic Sudoku rules. The number on the top left of each cage denotes the sum of the digit(s) in the cage. Digits cannot repeat in a single cage.


Answer Key: Enter the digits in lettered cells in alphabetical order.
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## (II) Rank Sudoku

Rule: Apply classic Sudoku rules. N ) means that the digit in the cell is the N -th smallest number in the corresponding cage. Digits cannot repeat in a single cage.


## (12) Odd Labyrinth Sudoku

Rule: Apply classic Sudoku rules. There must be at least one paths from the top left cell to the bottom right cell which pass through only odd digits.Diagonal movement is not allowed.


Answer Key: Enter the digits in lettered cells in alphabetical order.

## (13) Between Sudoku

Rule: Apply classic Sudoku rules. Digit(s) on each arrow must be between two digits pointed by the arrow.


## (14) Even Sandwich Sudoku

Rule: Apply classic Sudoku rules. Numbers on the top show the digits sandwiched by even numbers (i.e. digits whose vertically adjacent cells are both even) in the corresponding column in any order. Numbers on the left show the digits sandwiched by even numbers in the corresponding row in any order. All possible numbers are given. In particular, no digits are sandwiched by even numbers in clueless rows/columns.

| A | B | C |
| :--- | :--- | :--- |
|  |  |  |

Answer Key: Enter the digits in lettered cells in alphabetical order.

## (15) Search 9 Sudoku

Rule: Apply classic Sudoku rules. The number in an arrow denotes the distance (with respect to the number of cells) between the cell and the first seen 9 in the direction.

14 points


| $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ | $\mathbf{D}$ |
| :--- | :--- | :--- | :--- |
|  |  |  |  |

## (16) Capsule Sudoku

Rule: Apply classic Sudoku rules. Each capsule contains one odd number and one even number.

## 16 points



| $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ | $\mathbf{D}$ |
| :--- | :--- | :--- | :--- |
|  |  |  |  |

## (17) Clone Sudoku

Rule: Apply classic Sudoku rules. In two congruent gray shapes, numbers are arranged in the same way.
Note: Gray shapes do not have any symmetry . There is no need to think about rotation/reflection.

## 17 points



## (18) Quad max - min Sudoku

Rule: Apply classic Sudoku rules. Each circled number denotes the difference of maximum digit and minimum digit in its neighboring 4 cells. Digits can repeat around each circle.


Answer Key: Enter the digits in lettered cells in alphabetical order.

## (19) Coordinates Sudoku

Rule: Apply classic Sudoku rules. A coordinate system is given in the grid. $11 . \mid \mathbf{X}$ $(\mathrm{x}, \mathrm{y})$ is n . In other words, the digit in Column x , Row y is n .
Note: If you are familiar with Row-Column notation, you can avoid any confusion by reading backward. That is,


## 23 points



## (110) Sum of Them Sudoku

Rule: Apply classic Sudoku rules. A cell is marked if and only if the digit in the cell can be represented as the sum of some digits in its vertically or horizontally adjacent cells.


Answer Key: Enter the digits in lettered cells in alphabetical order.

